

ABSTRACT

A non-planar chemical preconcentrator comprises a high-surface area, low mass, three-dimensional, flow-through sorption support structure that can be coated or packed with a sorptive material. The sorptive material can collect and concentrate a chemical analyte from a fluid stream and rapidly release it as a very narrow temporal plug for improved separations in a microanalytical system. The non-planar chemical preconcentrator retains most of the thermal and fabrication benefits of a planar preconcentrator, but has improved ruggedness and uptake, while reducing sorptive coating concerns and extending the range of collectible analytes.